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In Claim 12, after “includes” insert an air heating means selected from. At the end of Claim 12, replace the semi-colon with a period.

In Claim 14, after “control” insert means in cooperation with. Delete the comma after “delivery means” and add an s to “cause”. At the end of Claim 14, replace the semi-colon with a period.

At the end of Claim 16, replace the semi-colon with a period.

Please substitute the enclosed drawings for the original drawings.

#### REMARKS

The above amendments are made to meet the objections and overcome the rejections of the Examiner. Claims 1, 7, 14 and 16 remain for consideration and applicant has added process claims 25, 26, 27, 28 and 29. The Abstract and specification have been amended as suggested by the examiner.

The amendments have been made to distinguish between apparatus and process claims. Means for language has been added as needed. These amendments are intended to overcome the 35 U.S.C. §101 and §112 rejections.

Claims 1, 7, 12 and 14 have been rejected under 35 U.S.C. §102 as being anticipated by the USP 4,501,125 to Han. As amended the Han patent does not anticipate the system nor the process claimed here by the inventors. Han does not teach the use of a variable speed fan to economize on energy or to reduce noise. Han does not teach the use of historical data in suggesting operating parameters. Han does not suggest provision for replacing stale air. Applicants are providing proactively for environmental aspects of providing more comfortable living indoors.

Applicants respectfully request that the Claims as amended and new claims be passed to allowance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "William S. Bernheim", followed by a long, sweeping horizontal line that extends to the right.

William S. Bernheim  
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MARK UP

1 CLAIMS

We claim:

- 5 1. A system for using outside ventilation air to maintain indoor comfort and air quality, comprising an air delivery means, damper means, sensor means, and control means, wherein:
- 10 said air delivery means supplies outside air to a building interior regulated by said control means for the purpose of providing ventilation cooling;
- 15 said damper means directs airflow from said air delivery means using a first and second position, wherein said damper first position causes said air delivery means to recirculate indoor
- 20 air, and said damper second position causes said air delivery means to supply outside air to indoor spaces and to release a similar volume of indoor air to outdoors;
- 25 said sensor means includes an indoor sensor and an outdoor sensor, both for measuring air temperature;
- said control means includes a single user interface and a controller;
- said user interface and said controller connected by a communication means;
- said user interface includes buttons for establishing control settings;
- said user interface allows the user to establish preferred minimum and maximum indoor temperature settings;
- said controller includes a microprocessor programmed with algorithms for predicting outdoor and indoor temperatures from temperature data obtained from said indoor and outdoor temperature sensors and from said minimum and maximum temperature settings;
- said controller conveying said predictions to said user interface where they are graphically displayed and from which a user of said system can select settings that maintain a desired comfort level and minimize needs for cooling of the building interior using vapor compression-based air conditioning;

1        said algorithms calculate a ventilation limit temperature which is greater than or equal to  
said minimum temperature setting and which increases with decreasing building cooling  
5 requirements to prevent over-cooling;

      said control means initiates said ventilation cooling operation by activating said air  
10 delivery means and by changing position of said damper means to said second position when  
the temperature sensed by said indoor sensor exceeds the temperature sensed by said outdoor  
15 sensor by a predetermined magnitude, and terminates said ventilation cooling operation when  
the temperature sensed by said indoor sensor falls below said ventilation limit temperature;

20 7. The system of claim 1, wherein said air delivery means and said damper means can be  
operated at the command of the user to either re-circulate indoor air or supply outside air~~X~~.

25 12. The system of claim 1, wherein said air delivery means includes~~X~~ a furnace or heating coil  
for supplying warm air~~X~~.  
*an air heating means  
selected from*

14. The system of claim 1, wherein said control~~X~~ *means in cooperation with* said air delivery means~~X~~ and said damper  
means cause a specified volume of outside air to be delivered to a building interior to maintain  
indoor air quality~~X~~.

16. The system of claim 1, further comprising a compressor-based air conditioner  
condensing unit and evaporator coil~~X~~.

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## ABSTRACT

5 A system and method for cooling and heating of buildings <sup>comprising</sup> ~~consisting of~~ an integrated  
assembly of devices, including a variable speed air handler, hot water heating coil, outside air  
10 damper, controller, and optional compressor-based air conditioner. During <sup>the</sup> ~~summer~~ the system  
utilizes nighttime outside air for cooling and uses air temperature predictions to provide  
15 information about optimal control settings and to maintain comfort. During <sup>the</sup> ~~winter~~ the system  
varies airflow with heating demand and ventilates with outside air to maintain indoor air quality.

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